

REMARKS/DISCUSSION OF ISSUES

Claim Summary

Claims 1-5 and 7-28 are presently under consideration in the application. Claims 1 and 28 are independent.

Rejections under 35 U.S.C. § 112, First Paragraph

In the Office Action, dated November 29, 2007, the Examiner rejected claims 1-28 under 35 U.S.C. § 112, first paragraph, as failing to comply with the written description requirement. In particular, the Office Action asserts that the limitations “a first reference digital test signal” and “a second reference digital test signal,” recited in claim 1, are not disclosed in the original disclosure of the application.

Applicants respectfully traverse this rejection and submit that the specification provides adequate support for “a first reference digital test signal” and “a second reference digital test signal.” For example, paragraph [00250] provides that “tester 24 may output a signal at varying data rates.” (Emphasis added). The presence of data rates indicates that the reference test signal is digital. Also, paragraph [00310] provides testing of bit error rate (BER) characteristics of functioning communication components, stating that “the effective bit error rate can be interrelated from a tested bit error rate.” Again, bit error rates are indicative of digital data, which support that digital test signals are used.

Accordingly, for at least these reasons, Applicants request the Examiner withdraw the rejection of independent claim 1 (and independent claim 28) under 35 U.S.C. § 112, first paragraph, as well as claims 2-27, which depend from claim 1.

The Office Action also asserted that the limitation “second reference digital test signal are modulated at the same wavelength,” recited in claim 6, is not disclosed in the original disclosure of the application. Without acquiescing to the propriety of the Examiner’s rejection, Applicants have canceled claim 6, without prejudice and without disclaimer of the subject matter, for the purpose of expediting prosecution and allowance

of the present application. Accordingly, the rejection of claim 6 under 35 U.S.C. § 112, first paragraph, is moot.

Rejections under 35 U.S.C. § 102

Claims 1-28 were rejected under 35 U.S.C. § 102(b) as being anticipated by HERNDAY et al. (U.S. Patent No. 5,041,997). Applicants respectfully traverse this rejection at least for the following reasons.

Claims 1, 28

With respect to independent claim 1, HERNDAY et al. do not disclose a number of elements. For example, claim 1 recites a first output port configured to output “a first reference digital test signal.” The Office Action states that the signal at section 8493C discloses a digital test signal output from FIG. 2A. *See* Office Action, p.3. In reference to FIG. 2A, the Office Action also states that “analog signals are [on] the left and digital signals are on the right” of switch S5. *Id.* However, there is no apparent reason (and the Examiner does not articulate a reason) why the switch S5 would provide a digital output (right side) based on an analog input (left side). Rather, switch S5 appears to handle only analog signals.

The Office Action also asserts that the “‘DAC’ converter” in FIG. 2C indicates the presence of digital test signals. *See* Office Action, p.4. However, FIG. 2C shows only two DACs, neither of which appears to be in the flow of a test signal (and neither of which is mentioned in the HERNDAY et al. disclosure). In fact, one of the DACs appears to be an input to an amplifier, indicating that both amplifier inputs (the other one being an optical signal) must be analog, not digital.

Also, generally, there is no indication that HERNDAY et al. discloses reference digital test signals. For example, none of the tested measurements are directed to digital signals: “The input and output signals for testing these devices are light, and the key parameters measured are attenuation versus modulation frequency, modulation bandwidth, delay, modal pulse dispersion, location of discontinuities, and length.” Col.

453, lines 47-51. There is no mention of digital data, bit error rates, or other parameters that would be present in digital test signals.

Claim 1 further recites “a first input port,” which the Office Action asserts is disclosed by an input to a “MOD AMP” (evidently MOD AMP 5086-7523), which is a modulator and amplifier. However, HERNDAY et al. is clear when it identifies ports (e.g., electrical test ports 18₁, 18₂, lightwave test ports 12₁, 12₂), and the input of the MOD AMP 5086-7523 is not identified as a port.

Further, the Office Action asserts that an output of Mach-Zehnder optical modulator of FIG. 2C (which is “Optical Output 12₁”) discloses “a second output port configured to output a first stressed digital test signal,” indicating that the optical modulator stresses the second reference digital test signal. *See* Office Action, p.4. The Mach-Zehnder optical modulator receives signals at an RF port and modulates lightwave source 14. According to HERNDAY et al., “the optical modulator is the device in the optical chain which superimposes the amplitude modulation envelope onto the CW laser light.” Col. 6, lines 50-54. It does not output a stressed digital test signal based on the second reference signal. Further, any attenuation that may occur in the optical modulator is incidental to modulating lightwave source 14, not stressing a digital signal for test purposes.

Accordingly, since HERNDAY et al. do not disclose each and every element of claim 1, withdrawal of the rejection of claim 1 under 35 U.S.C. § 102(b) based on HERNDAY et al. is respectfully requested. Further, HERNDAY et al. do not disclose each and every element of claim 28 for substantially the same reasons, so withdrawal of the rejection of claim 28 under 35 U.S.C. § 102(b) based on HERNDAY et al. is also respectfully requested.

Claims 2-27

Applicants submit that claims 2-27 are allowable at least because they depend, directly or indirectly, from claim 1, which has been shown to be allowable, in addition to reasons related to there own recitations.

For example, the Office Action relies on the same elements of HERNDAY et al. to teach separate distinct elements of the pending claims. For example, the Examiner identifies the optical output port 12₁ of FIG. 2C (which is the output of the Mach-Zehnder optical modulator) as disclosing each of the following claim features:

- (1) a second output port configured to output a first stressed digital test signal (claim 1; *see* Official Action p. 4);
- (2) a second input port configured to input a second stressed digital test signal (claims 13, 16; *see* Office Action, pp.8, 9);
- (3) a third output port configured to output a third stressed digital test signal (claim 13; *see* Office Action, p.8); and
- (4) a third input port configured to input a fourth stressed digital test signal (claim 13; *see* Office Action, p.8).

The Office Action cannot properly rely on the same element of FIG. 2C to disclose four separate elements recited in the various claims.

Further, because the Examiner relies on the same element of HERNDAY et al. to teach multiple claim features, other rejections do make sense. For example, with respect to claim 17, the Office Action states that “Hernday teaches the second output port (port from MACH-Zehnder optical modulator) is externally coupled to the second input port (12₁) by a communication link under test (i.e. DUT)” *See* Office Action, p.9. Again, the Office Action identifies the same port (optical output 12₁) as the second output port and the second input port. However, there is no teaching in HERNDAY et al. that a DUT may be connected between one port: optical output 12₁. In fact, FIG. 1 clearly shows only four possibilities for connecting a DUT to the analyzer disclosed by HERNDAY et al., i.e., between ports 18₁ and 18₂, between ports 18₁ and 12₂, between ports 12₁ and 12₂, and between ports 12₁ and 18₂. However, the Office Action does not identify any of these actual possibilities as disclosing the elements of claim 17.

Conclusion

In view the foregoing, Applicants respectfully request that the Examiner withdraw the objection(s) and/or rejection(s) of record, allow all the pending claims, and find the application in condition for allowance.

If necessary, the Commissioner is hereby authorized in this, concurrent, and further replies to charge payment or credit any overpayment to Deposit Account Number 50-0238 for any additional fees, including, but not limited to, the fees under 37 C.F.R. §1.16 or under 37 C.F.R. §1.17.

If any points remain in issue that may best be resolved through a personal or telephonic interview, the Examiner is respectfully requested to contact the undersigned at the telephone number listed below.

Respectfully submitted on behalf of:
Circadiant Systems, Inc.

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by: Van C. Ernest (Reg. No. 44,099)

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